PUBLIC NOTICE

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DA 11-2026
Release Date: December 15, 2011

REQUEST FOR CONNECT AMERICA FUND COST MODELS

WC Docket Nos. 10-90, 05-337

Model Submission and Comment Date: February 1, 2012

1. On November 18, 2011, the Commission released the *USF/ICC Transformation Order*, which comprehensively reforms and modernizes the universal service and intercarrier compensation systems into a new Connect America Fund (CAF) to ensure that robust, affordable voice and broadband service are available to Americans throughout the nation.[1] Among other things, the Commission adopted a methodology for providing CAF support in areas served by price cap carriers that will use a forward-looking cost model to estimate the costs of deploying broadband-capable networks in high-cost areas and identify at a granular level the areas where support will be available.[2] Using the cost model, the Commission will offer each price cap local exchange carrier (LEC) annual support for a period of five years in exchange for a commitment to offer voice service across its service territory within a state and broadband service to supported locations within that service territory.[3] The Commission also intends to use the forward-looking cost model to identify extremely high-cost and remote areas (in both price cap and rate-of-return territories) that should receive support from the Remote Areas Fund.[4] As with the current model, we expect that the new model will be readily available to support recipients and the public for their ongoing use.

[1] *See generally Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform—Mobility Fund*; WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) (*USF/ICC Transformation Order and FNPRM*).

[2] *See id.* at para. 166.

[3] *See id.* The Commission also sought comment in the FNPRM on whether and how to adjust eligible telecommunications carrier (ETC) voice service obligations in areas where an ETC is no longer receiving federal support. See *id.*, Section XVII.F. For all territories for which price cap LECs decline to make the service commitment, the Commission will award ongoing support through a competitive bidding mechanism.

[4] *See id.* at paras. 167, 1229.

2. *Timetable*. Our goal is to adopt a specific model to be used for estimating support amounts in price cap areas by the end of 2012 in order to provide support beginning January 1, 2013.[5] To meet this timetable and to ensure that interested parties have adequate time to evaluate the models and inputs under consideration, the Wireline Competition Bureau (Bureau) hereby requests parties to submit forward-looking cost models, consistent with the Commission's order, for consideration in this proceeding as soon as possible, but no later than February 1, 2012. Parties should notify the Bureau of their intention to do so no later than three days after publication of this public notice in the Federal Register or by December 30, 2011, whichever comes later, so that there is sufficient time before the February 1 deadline to craft the terms of any protective order(s) necessary to resolve any issues related to licensing of third party data and making appropriate arrangements for providing access to the public.[6]

3. After a model or models are filed, the Bureau will evaluate the extent to which the models meet the criteria laid out below. Following that, and with input from the public, the Bureau may decide there is a need to make certain modifications and changes, which may include combining elements of multiple models into a new model. In addition, the Bureau will identify the data sources and input values that will be used to determine support areas and amounts. The final model and inputs will be developed through an open, deliberative process, and there will be opportunity for further public input before a final model is adopted and support levels are established.

4. *Public Access to Submitted Models*. In the *USF/ICC Transformation Order and FNPRM*, the Commission reaffirmed criteria that any forward-looking cost model used to determine federal high-cost support must meet, stating that the "model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment. All underlying data should be verifiable, engineering assumptions reasonable, and outputs plausible."[7] Models and input values submitted in this proceeding may be subject to reasonable restrictions to protect commercially sensitive information and proprietary data,[8] but the models and data must be available for public scrutiny and potential modification. A copy of all models' underlying source code must be available to Commission staff and interested parties, who must also have meaningful access to the relevant data, and the ability to change input values, run sensitivity tests, and analyze the results of various model runs. Access to models may not be restricted by use of a paywall (i.e., access to the model cannot be conditioned on paying a fee). In addition, any need to procure additional data or intellectual property to make use of or modifications to models will be taken into account in evaluating submissions.

5. *Model Capabilities*. The following paragraphs describe the capabilities the Bureau seeks in models filed in the record to support the policy choices specified by the Commission. We seek to balance the benefits of obtaining the most robust model submissions possible with the need to conclude

[5] *See id.* at 192. The Commission directed the Bureau to report on the status of the model development process no later than June 1, 2012.

[6] *See, e.g.*, *Developing a Unified Intercarrier Compensation Regime, Establishing Just and Reasonable Rates for Local Exchange Carriers, Connect America Fund, High-Cost Universal Service Support, A National Broadband Plan for Our Future,* CC Docket No. 01-92, WC Docket Nos. 07-135, 10-90, 05, 337, GN Docket No. 09-51, Supplemental Protective Order, 26 FCC Rcd 12795 (2011). In contrast to the terms of the Supplemental Protective Order, the model, data and source code must be made available consistent with the terms of this Public Notice in order for a cost model to be considered at this stage of the proceeding.

[7] *Id.* at para. 185 (quoting *Universal Service First Report and Order*, 12 FCC Rcd at 8915, para. 250).

[8] *See* 47 C.F.R. § 0.459.

the model development process expeditiously, so that we can begin distributing model-based support in January 2013. We understand it may not be practical to include all preferred capabilities in the final model in the timeframe established by the Commission, but we will evaluate submissions based on the capabilities they provide, in light of the model requirements set forth in the *USF/ICC Transformation Order and FNPRM*. In particular, we describe the geographic requirements (paragraph 6), the model capabilities to ensure the model is *forward-looking* and *economically efficient* (paragraphs 7-9), the types of cost that the model should calculate (paragraph 10), and other capabilities (paragraph 11). There will be one or more public notices seeking comment on specific issues that must be resolved before we adopt a final model.

6. Consistent with the Commission's order, the adopted model should be capable of estimating the forward-looking economic costs of an efficient wireline provider at a granular level—census block or smaller—in all areas of the country, including Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and Northern Marianas Islands.[9] These granular cost estimates should capture the effects of scale and low utilization rates on costs. Thus, for example, models should take into account that in less densely populated areas the cost of shared facilities is spread over fewer locations, driving up the cost per location. In addition, it may be appropriate to estimate higher per-unit costs for small providers, or to reflect savings on costs such as overhead for large providers to reflect economies of scale. Models must also be capable of excluding areas served by unsubsidized competitors. Because available data will likely change between the deadline for filing models and the time a model is adopted and support levels are set, models should be able to incorporate changes to underlying data sources.

7. The Commission directed the Bureau "to ensure that the model design maximizes the number of locations that will receive robust, scalable broadband within the budgeted amounts."[10] The Commission also delegated to the Bureau the choice of a greenfield or brownfield broadband model.[11] To meet these objectives and evaluate alternative policy choices, models should be capable of estimating the costs of both brownfield[12] and greenfield builds[13] for multiple wireline technologies. In particular, models should be capable of estimating the costs of fiber-to-the-premises (FTTP) and digital subscriber

[9] *See USF/ICC Transformation Order and FNPRM*, at paras. 187-89, 193.

[10] *USF/ICC Transformation Order and FNPRM*, at para. 187.

[11] *See id.*

[12] A brownfield approach would assume the existence of a last-mile copper network.

[13] Two different types of wireline cost models are often referred to as greenfield models: A "scorched node" model is one that models the network using the existing LEC wire centers. In contrast, a "scorched earth" model assumes no existing infrastructure. We expect that if we adopt a greenfield model in the current proceeding, a scorched node model that takes the location of central offices as fixed is likely to be more appropriate than the scorched earth alternative, given the five-year time period of funding under CAF Phase II. We expect there may be circumstances in some geographic areas, however, such as lack of data on the location of incumbent LEC nodes, in which a scorched earth approach may be necessary.

loop (DSL) of varying loop lengths (e.g,. short-loop, VDSL-capable, 3,000-foot-loop DSL to 12,000-foot-loop DSL).[14]

8. The forward-looking costs of an efficient provider calculated by models must be based on reasonable engineering assumptions.[15] As the Commission noted, newer models can significantly improve the accuracy of modeled forward-looking costs by estimating the costs of efficient routing along roads.[16] Models should also reflect how an efficient provider would likely evaluate deployment decisions. Given the five-year time horizon of CAF Phase II funding, existing deployments, and the economics of new investments, some deployments may not be appropriate for an efficient provider (e.g., a brownfield FTTP, or a greenfield DSL build-out). Decisions regarding what type of network to model will be made following further public input.

9. Similarly, models should be capable of estimating the costs of providing service over a shared network to all households, businesses and community anchor institutions within a geographic area, and appropriately allocating costs and capacity among those different users. By including all locations models will be capable of reflecting the economies of scale and scope associated with providing services over a shared network, thereby reducing the per-location cost of serving residential customers.

10. Next, models should be capable of incorporating a comprehensive range of different costs. Cost models created by the Commission in the past were capable of estimating initial capital costs (capex) as well as ongoing capex and operating expenses (opex); reflected variations in construction costs in different areas due not only to plant mix, but also to costs such as labor or transportation; and captured the impact on cost of economic and accounting lives of plant and equipment, and the impact of taxes and the cost of capital.[17] Models for CAF support should capture a similarly comprehensive set of costs. In addition, prior models have allowed averaging of costs over different geographies, whether defined by the census (e.g., census blocks or counties) or wireline networks (e.g., wire centers or study areas); models for CAF support should have a similar capability.

11. Additional capabilities in models might prove useful, but could conceivably lead to a delay that outstrips the incremental value of those capabilities. To the extent these additional capabilities

[14] *See* Letter from Jonathan Banks, USTelecom, to Marlene Dortch, FCC, Secretary, WC Docket No. 10-90 et al., at 2 (filed Oct. 17, 2011) (discussing how shorter loop lengths could lead to some locations receiving broadband service at 6 Mbps downstream speed and others receiving 12 Mbps downstream speed).

[15] *See supra* para. 4 and note 7.

[16] *See USF/ICC Transformation Order and FNPRM*, at para. 187. Efficient clustering of customer locations and route tracing along roads and other rights of way is one manifestation of forward-looking costs of an efficient provider.

[17] *See Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs*, CC Docket Nos. 96-45, 97-160, Fifth Report and Order, 13 FCC Rcd 21323 (1998) (adopting the Commission's narrowband model platform, i.e., the assumptions about the design of the network and network engineering, and fixed characteristics such as soil and terrain used in the computer model; *Tenth Report and Order*. *Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs*, CC Docket Nos. 96-45, 97-160, Tenth Report and Order, 14 FCC Rcd 20156 (1999) (adopting narrowband model inputs), affirmed, *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001); Omnibus Broadband Initiative, The Broadband Availability Gap: OBI Technical Paper No. 1, at 96 (April 2010) (describing model used in conjunction with the National Broadband Plan).

are present in any model submitted, or could be added easily, the Bureau will take that into account in evaluating the model. For example, one capability that could be useful could be the ability to model revenue in each geographic area, allowing the Bureau to take revenue into account in determining support thresholds, or to calculate cash flows for each year of a modeled five-year period of network costs, rather than steady-state (levelized) cost.

12. *Areas Served by Unsubsidized Competitors*. In the *USF/ICC Transformation Order and FNPRM*, the Commission directed the Bureau to publish, following adoption of the cost model, a list of all census blocks in price cap areas eligible for support. Areas eligible for support would exclude areas served by an "unsubsidized competitor."[18] Any models submitted should have the capability to carve out areas served by an unsubsidized competitor.

13. Price cap ETCs that accept a state-level commitment must offer broadband at actual speeds of at least 4 Mbps downstream and 1 Mbps downstream, and must offer at least 6 Mbps/1.5 Mbps by the end of the fifth year to a number of locations to be specified.[19] The State Broadband Initiative (SBI) data used in the National Broadband Map are collected at a sufficiently granular level—census block or smaller—but none of the speed tiers corresponds to 4 Mbps/1Mbps. Breakpoints closest to the 4 Mbps downstream speed are 3 Mbps and 6 Mbps; breakpoints closest to 1 Mbps are 768 kbps and 1.5 Mbps. The Commission recognized that the best data available at this time to determine whether broadband is available at speeds at or above the 4 Mbps/1 Mbps speed threshold will likely be data on availability at 3 Mbps downstream and 768 kbps upstream, which is collected pursuant to SBI and the Commission's Form 477. It further noted that such data may be used as a proxy for the availability of 4 Mbps/1 Mbps broadband.[20] Models should therefore have the ability to use the 3 Mbps/768 kbps tier from the SBI data to identify areas served by unsubsidized competitors. In addition, we note that the 6 Mbps/1.5 Mbps target for the end of the five-year funding period corresponds to speeds available directly from SBI and Form 477 data.[21] Ideally, models should therefore also have the capability to incorporate SBI and 477 data regarding areas that have 6 Mbps/1.5 Mbps broadband. It may also be desirable for models to allow use of these data sources in combination with data from Warren Media, Nielsen, or other sources to identify areas with cable coverage. We will seek comment on appropriate data sources to identify areas served by "unsubsidized competitors" in a subsequent notice.

14. *Alaska, Hawaii, and U.S. Territories*. The Commission directed the Bureau to consider the unique circumstances of Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands and Northern Marianas Islands when adopting a cost model, and consider whether the model ultimately adopted adequately

[18] *Id*. at para. 103.

[19] *Id*. at para. 160.

[20] *Id*. at para. 103 n.168. For purposes of assessing broadband deployment in the *Seventh Broadband Report*, the Commission used the 3 Mbps/768 kbps tier because it is the closest to the 4 Mbps/1 Mbps threshold. *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 10-159, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 80008, 8023, para. 25 (2011) (*Seventh Broadband Report*) The National Telecommunications and Information Administration's SBI program was previously known as the State Broadband Data and Development (SBDD) program and the data referred to as the SBDD data throughout the *Seventh Broadband Report*.

[21] *Seventh Broadband Report*, 26 FCC Rcd at 8078, App. F.

accounts for the costs faced by carriers serving these areas.[22] In evaluating models, we will therefore consider the extent to which they are able to account for the costs of providing service in these areas. We will seek comment on these issues, including what data sources we could use to develop appropriate model inputs for these areas in a subsequent notice.

15. Interested parties may **submit models or file comments on or before February 1, 2012**. All pleadings are to reference **WC Docket Nos. 10-90 and 05-337**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS), or by filing paper copies.[23]

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://fjallfoss.fcc.gov/ecfs2/.

- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, D.C. 20554. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. The filing hours are 8:00 a.m. to 7:00 p.m. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, S.W., Washington D.C. 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (tty).

In addition, one copy of each pleading must be sent to each of the following:

(1) The Commission's duplicating contractor, Best Copy and Printing, Inc., 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, www.bcpiweb.com; phone: (202) 488-5300 fax: (202) 488-5563;

(2) Katie King, Telecommunications Access Policy Division, Wireline Competition Bureau, 445 12th Street, S.W., Room 5-A317, Washington, D.C. 20554; e-mail: Katie.King@fcc.gov**;** and

(3) Charles Tyler, Telecommunications Access Policy Division, Wireline Competition Bureau, 445 12th Street, S.W., Room 5-A452, Washington, D.C. 20554; e-mail: Charles.Tyler@fcc.gov.

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[22] *Id*. at para. 193.

[23] *See Electronic Filing of Documents in Rulemaking Proceedings*, GC Docket No. 97-113, Report and Order, 13 FCC Rcd 11322 (1998).

Filings and comments are also available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. They may also be purchased from the Commission's duplicating contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, telephone: (202) 488-5300, fax: (202) 488-5563, or via e-mail www.bcpiweb.com.

This matter shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[24] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentation and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented generally is required.[25] Other rules pertaining to oral and written *ex parte* presentations in permit-but-disclose proceedings are set forth in section 1.1206(b) of the Commission's rules.[26]

For further information, please contact Patrick Halley, Wireline Competition Bureau at (202) 418-7550 or TTY (202) 418-0484.

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[24] 47 C.F.R. §§ 1.1200 *et seq*.

[25] *See* 47 C.F.R. § 1.1206(b)(2).

[26] 47 C.F.R. § 1.1206(b).